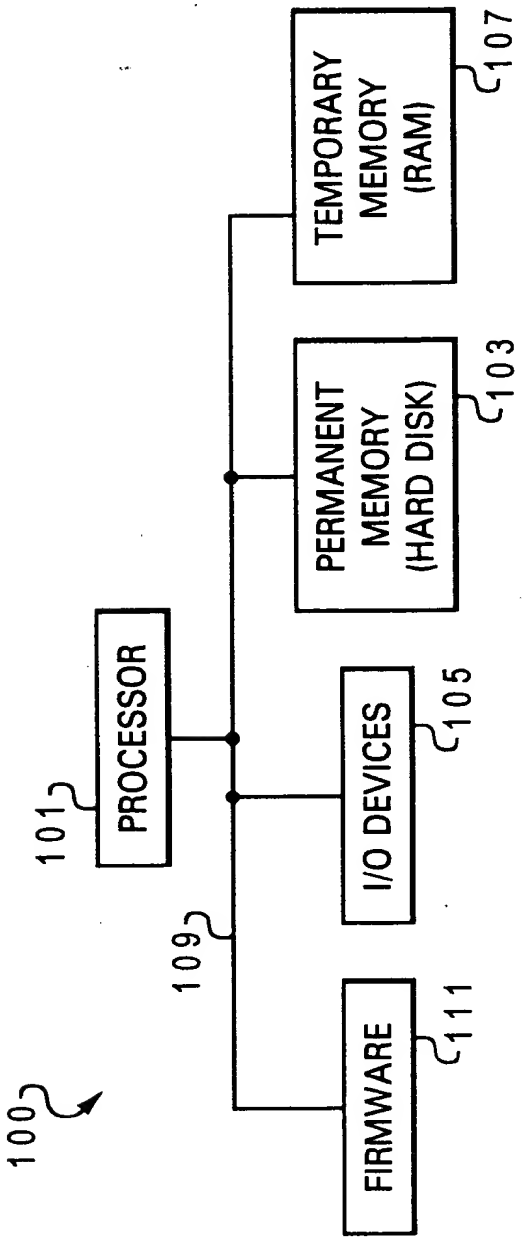


Fig. 1

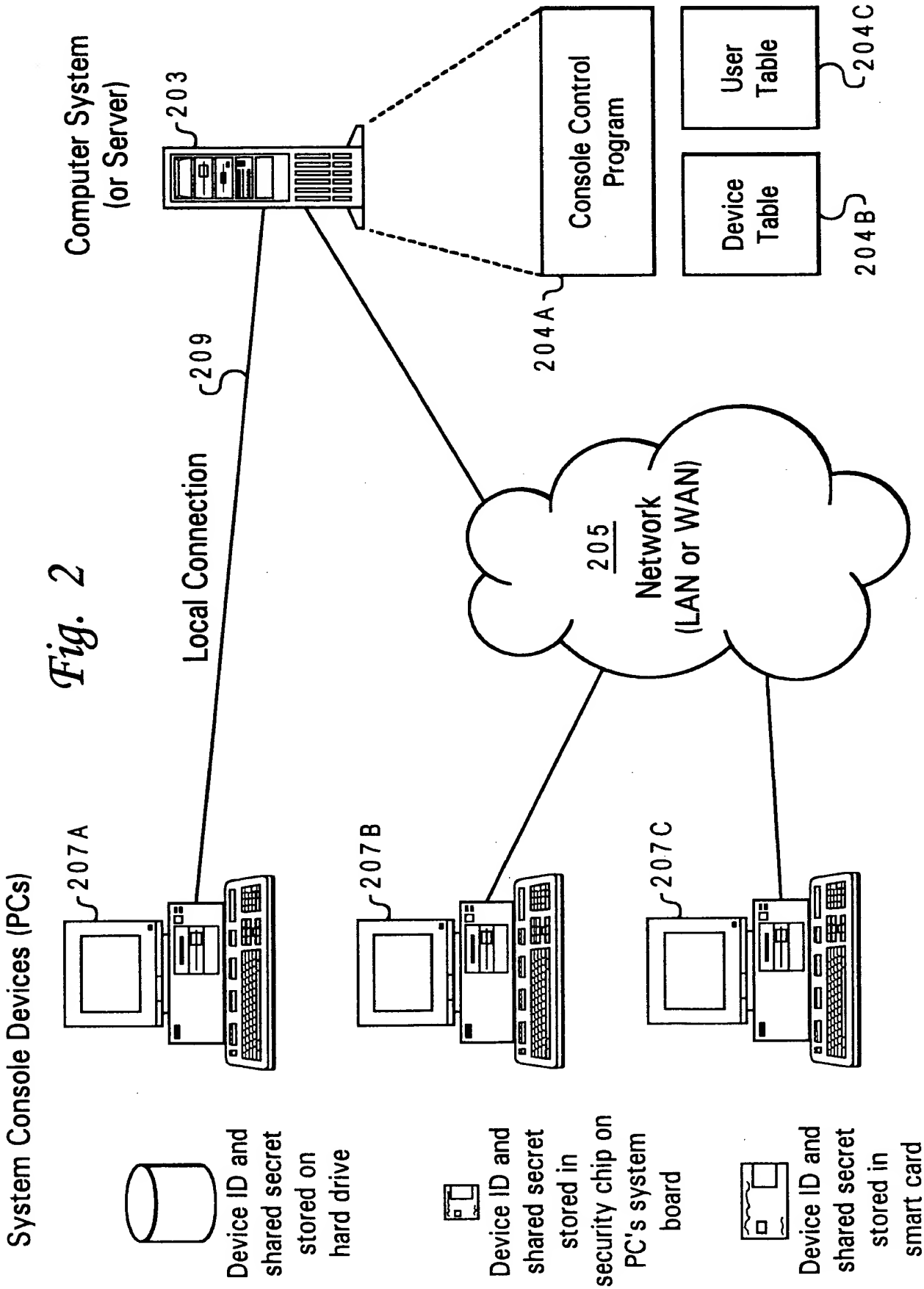


Fig. 2

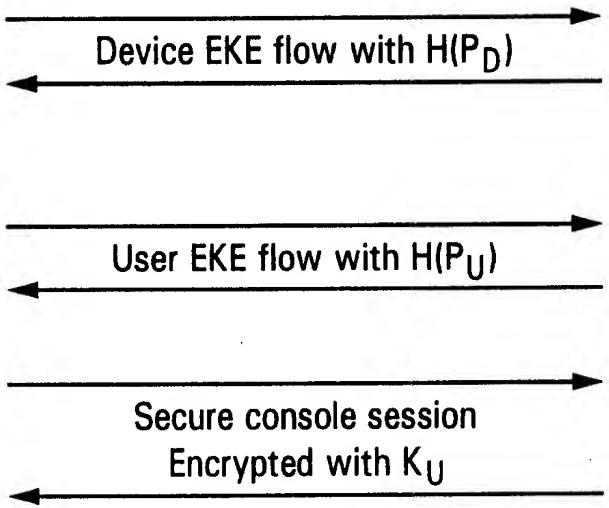
301 Op Console PC

OS/400

Console session flow

Normal flow -
Prompt for I_D, P_A, I_{Ux}, P_{Ux}
Setup wizard -
1) Prompt for I_D, P_D, P_A, I_{Ux}, P_{Ux}
2) Use PKCS-5 to encrypt P_D with P_A

Shipped with:
I_D = QCONSOLE, $H(P_D)$ = H(QCONSOLE)
I_{U3} = QSECOFR, $H(P_{U3})$ = H(QSECOFR)
I_{U2} = 22222222, $H(P_{U2})$ = H(22222222)
I_{U1} = 11111111, $H(P_{U1})$ = H(11111111)



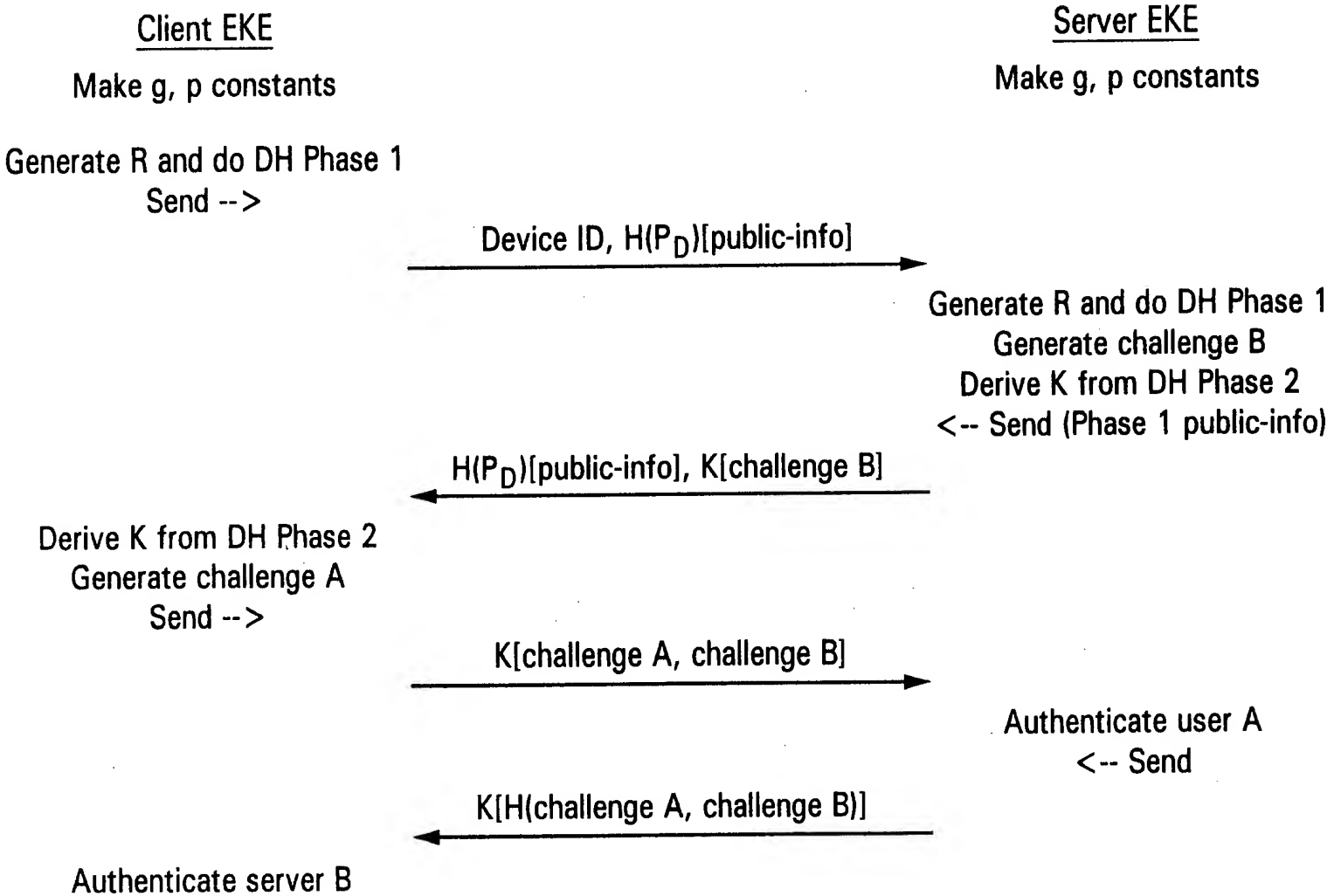
Legend:
I_D = Device identifier
P_D = Device shared secret
P_A = Access passphrase
I_{Ux} = User ID
P_{Ux} = User passphrase
K_D = Device session key
K_U = User session key
R = Random number
H(x) = Hash of x

NOTE: The first console session uses the well known shipped device identifier and user ID to access the iSeries. The device passphrase is modified in the initial flow ($P_D = K_D$). Therefore, the genesis device essentially "gets in free."

Fig. 3A

303 - Generate DH parameters g and p
- Where g = base; p = prime; these values do not have to be secret (public-info)
- Make g and p constants in server and client EKE code

Fig. 3B



Refer to BSAFE Reference Manual for description of DH Phase 1 & 2.
NOTE: The challenge strings must be a different length than the encryption block.

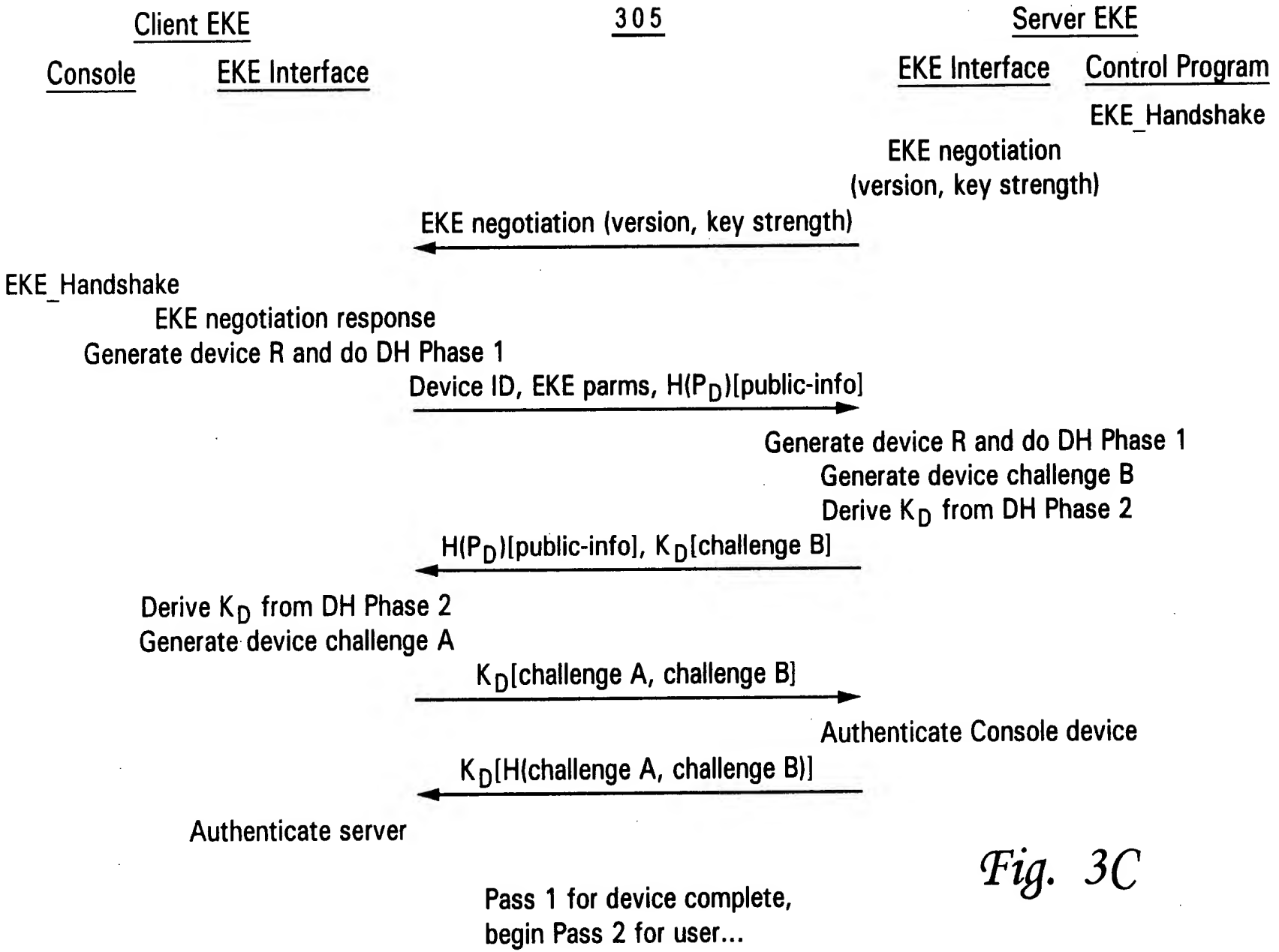
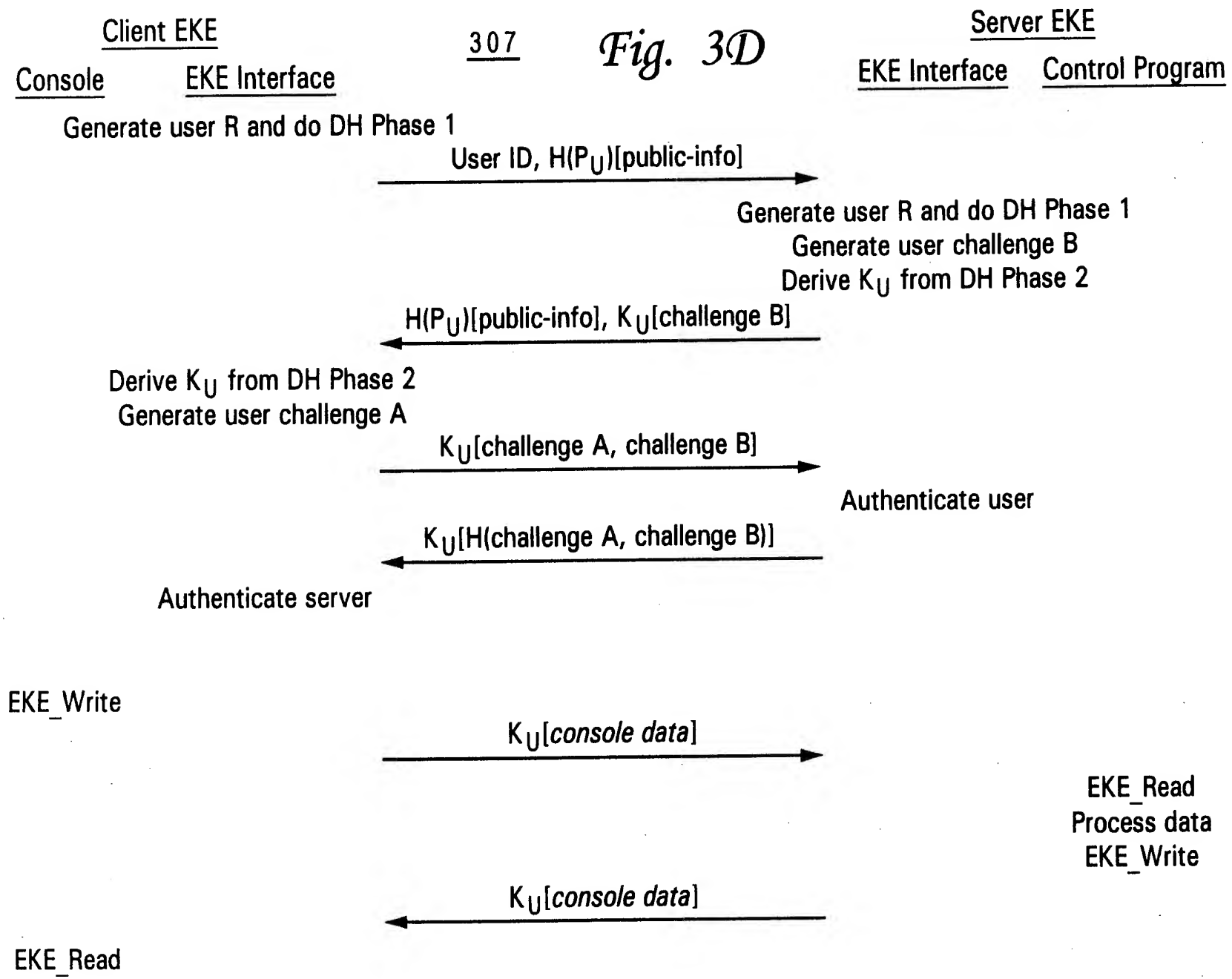


Fig. 3C

307

Fig. 3D



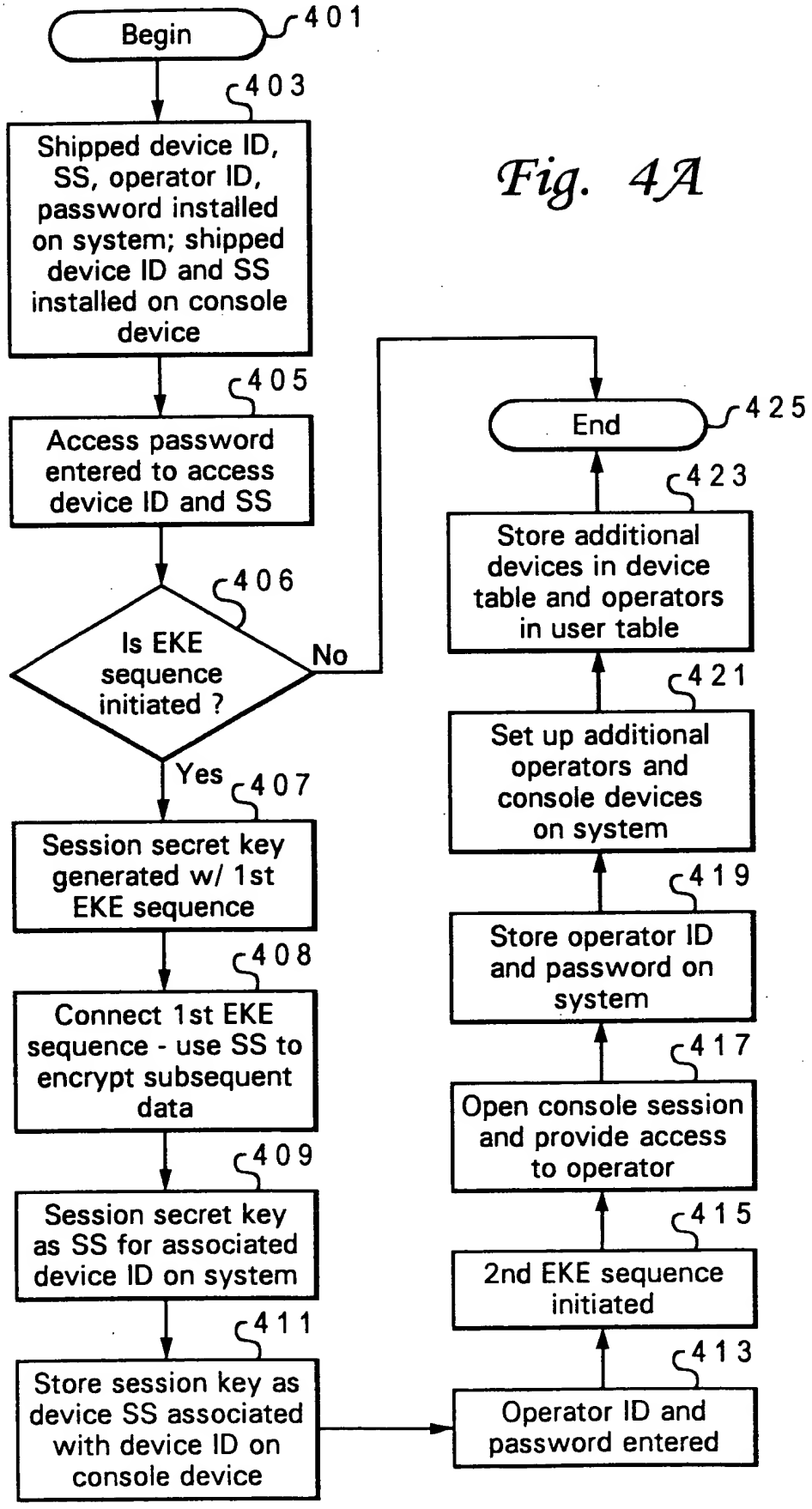


Fig. 4A

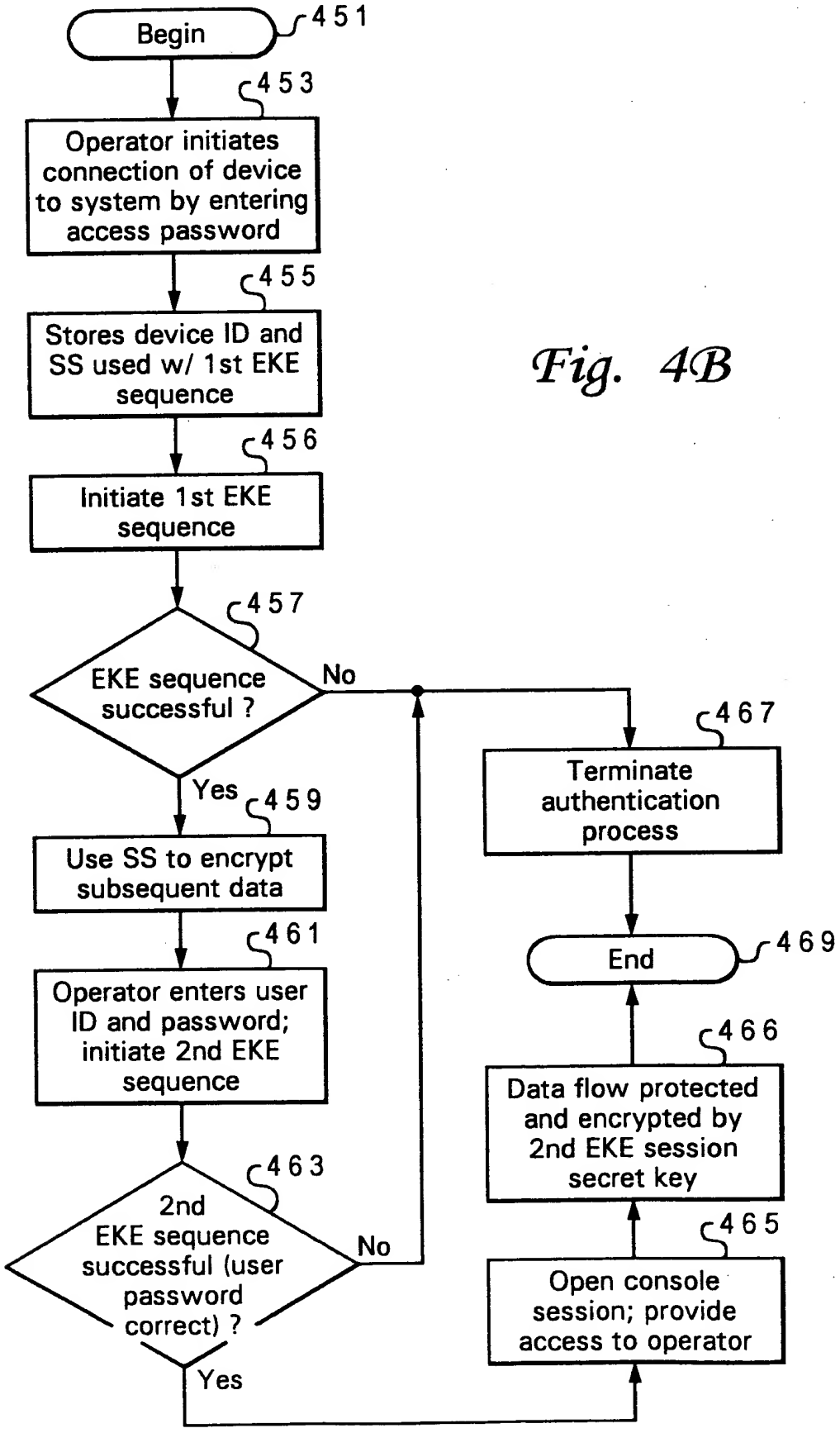


Fig. 4B

Server

Device Table 511

Device Identifier	Hashed shared secret
QCONSOLE	H(shared secret)
DEVICE2	H(shared secret)

User Table 513

User Identifier	Hashed password
11111111	H(password)
22222222	H(password)
QSRV	H(password)
QSECOFR	H(password)

Fig. 5B

Client Device (PC) 501

Server Connection		
Server1	Hash (device identifier, shared secret)	
Server2		Hash (device identifier, shared secret)

Fig. 5A